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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/180,798	11/16/1998	SAPE CORNELIS DE VRIES	S-137-1103/S	9123

22847 7590 10/29/2003

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EXAMINER

MEHTA, ASHWIN D

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 10/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center"><b>Office Action Summary</b></p>	<b>Application No.</b> 09/180,798	<b>Applicant(s)</b> DE VRIES ET AL.	
	<b>Examiner</b> Ashwin Mehta	<b>Art Unit</b> 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 April 2003 and 01 August 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 84-90 and 92-97 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 84-90 and 92-97 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☒ All   b) ☐ Some \* c) ☐ None of:  
     1. ☐ Certified copies of the priority documents have been received.  
     2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
     3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. The rejections of claims 84-97 under 35 U.S.C. 112, 2<sup>nd</sup> paragraph, are withdrawn in light of the claim amendments.

### ***Specification***

3. The specification remains objected to for the reasons of record stated in the Office action mailed 03 December 2002 under item 6. The first line of the last paragraph of page 35 of the specification contains the recitation “(Seq ID No. NEW)”. The appropriate sequence identifier should replace the term “NEW.” New matter must be avoided.

### ***Claim Objections***

4. Claims 94 and 95 remain objected to for the reasons of record stated in the Office action mailed 03 December 2002 under item 7. The term “Plant” in line 1 of the claims should be replaced with --The plant--.

### ***Claim Rejections - 35 USC § 112***

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5. Claims 84-90 and 92-97 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 84: the recitation “or a DNA sequence which is at least 90% similar to SEQ ID No. 1, SEQ ID No. 2, or SEQ ID No. 32 and which hybridizes under stringent washing conditions of 3 x 20 min in 0.5% SSC, 1% SDS at 65°C, wherein said amino acid sequence enhances fertilization-independent embryogenesis” renders the claims indefinite. The second line of the claim indicates that the isolated DNA encodes a protein kinase having the amino acid sequence of SEQ ID No. 3 or 33. However, the recitation encompasses sequences that do not encode SEQ ID Nos. 3 or 33. Further, the recitation does not indicate what the DNA sequence hybridizes to.

6. Claims 84-90 and 92-97 remain rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, for the reasons of record stated in the Office action mailed 03 December 2002 under item 9. Applicants traverse the rejection in the paper filed 22 April 2003. Applicants’ arguments have been fully considered but were not found fully persuasive.

Regarding the issue concerning SEQ ID NOs: 20 and 21, Applicants have deleted these SEQ ID NOs from the claims. The amendment overcomes this issue of the rejection.

Regarding the issue of the function of the claimed DNA, Applicants argue that amended claim 84 now limits the claimed SEQ ID NO. to a sequence that enhances fertilization-independent embryogenesis, and cite certain pages and figures of the specification for support (response, paragraph bridging pages 4-5). However, the specification, including the cited sections, does not recite the recitation, "fertilization-independent embryogenesis." This recitation is therefore **NEW MATTER** and must be removed from the claim.

Regarding the issue concerning the lack of description of all the promoters encompassed by claim 90, Applicants argue that claim 90 has been amended to recite those promoters specifically described in the specification (response, page 5, 1<sup>st</sup> full paragraph). However, the claim still encompasses SERK promoters and the carrot chitinase DcEP3-1 promoter. The specification only refers to the promoter of the *Daucus carota* SERK gene as a 2200 bp HindIII/DraI fragment of SEQ ID NO: 1 (specification, page 31, 1<sup>st</sup> paragraph and page 34, 1<sup>st</sup> full paragraph). However, the location of the HindIII site at the beginning of SEQ ID NO: 1 is not apparent, and SEQ ID NO: 1 contains numerous DraI sites, including sites that are well within nucleotide 2200. The sequences that make up the promoter of the *D. carota* SERK gene are not clear. The specification does not describe the promoters of any other SERK gene. Further, the specification also does not describe, or cite the prior art that describes, the DcEP3-1 promoter. Claim 90 still encompasses these promoters.

7. Claims 84-90 and 92-97 remain rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains,

or with which it is most nearly connected, to make and/or use the invention, for the reasons of record stated in the Office action mailed 03 December 2002 under item 10. Applicants traverse the rejection in the paper filed 22 April 2003. Applicants' arguments have been fully considered but were not found fully persuasive.

Regarding SEQ ID NOs: 20 and 21, Applicants argue the claim 84 has been amended by deleting SEQ ID NOs: 20 and 21 (response, page 5, 2<sup>nd</sup> full paragraph). The amendment overcomes this aspect of the rejection.

Regarding the issue concerning lack of enablement of the promoters of claim 90: Applicants argue that the claim has been amended to include promoters specifically described in the specification (response, page 5, 2<sup>nd</sup> full paragraph). However, the claim still encompasses promoters that are not taught, as discussed above.

Amended claim 84 now indicates that the claimed isolated DNA encodes an amino acid sequence that enhances fertilization-independent embryogenesis. However, as discussed in previous Office actions, the specification does not show that transgenic plant cells expressing the claimed isolated DNA actually rendered the cells embryogenic. The specification teaches that SEQ ID NO: 2 has domains that suggest it has a serine-threonine kinase activity, and that it is closely correlated with the occurrence of competent cells in established embryogenic cultures and transiently in zygotic embryogenesis (pages 19-23). While the specification teaches that SERK can serve as a marker to identify cells that are competent to become embryogenic, it does not teach that it was SERK that actually rendered them embryogenic. Further, the specification teaches that SERK does not accumulate in adult plant organs nor in flowers prior to pollination, and that SERK expression is first detected in flowers at three days after pollination, at which

stage fertilization has taken place and endosperm development has commenced (page 23, 1<sup>st</sup> paragraph). In the absence of further guidance, undue experimentation would be required by one skilled in the art to use the claimed isolated DNAs to enhance fertilization-independent embryogenesis, given that the specification teaches that SERK is not expressed unless fertilization occurs.

*Summary*

8. Claims 84-90 and 92-97 remain rejected.

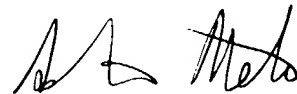
9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Contact Information***

Any inquiry concerning this or earlier communications from the examiner should be directed to Ashwin Mehta, whose telephone number is 703-306-4540. The examiner can normally be reached on Mondays-Thursdays and alternate Fridays from 8:00 A.M to 5:30 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, can be reached at 703-306-3218. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 and 703-872-9306 for regular communications and 703-872-9307 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

October 22, 2003

  
**ASHWIN D. MEHTA, PH.D**  
**PATENT EXAMINER**